

**AMENDMENTS TO THE CLAIMS**

1 (canceled)

2 (previously presented). An apparatus according to claim 19, further comprising:  
an ATM data packet generator configured to generate data packets corresponding to an asynchronous transfer mode from the data stream; and  
a transmission frame generator configured to generate transmission frames corresponding to one of the SDH and PDH transmission system from the data packets corresponding to the asynchronous transfer mode.

3-4 (canceled)

5 (previously presented). An apparatus according to claim 19, the multiplexer is configured to perform statistical time-division multiplexing of the data incoming in the plurality of data channels.

6 (currently amended). A method for sending data in at least one of an SDH and a PDH transmission system, comprising ~~the following steps of:~~

receiving and arranging data incoming in a plurality of data channels into a plurality of mini-cells having a flexible length,

generating a single data stream from the plurality of mini-cells, wherein the received plurality of mini-cells are arranged following one another in the data stream;

directly generating individual transmission frames from the data stream; ~~and~~

transmitting the generated individual transmission frames via one of an SDH and PDH transmission system, wherein the individual transmission frames contain a number of mini-cells and correspond to the frame structure of one of the SDH and PDH transmission system;

generating position data with respect to a position of a first mini-cell for each corresponding individual transmission frame; and

inserting the position data into each corresponding individual transmission frame, wherein the position data are arranged at the beginning of a respective transmission frame.

7-8 (canceled)

9 (previously presented). The method according to claim 6 wherein the step of generating a single data stream from the plurality of mini-cells includes a statistical time-division multiplexing of the data incoming in the plurality of data channels.

10 (canceled)

11 (previously presented). The apparatus according to claim 20, further comprising:  
an ATM data packet generator configured to recover data packets corresponding to an asynchronous transfer mode from the incoming transmission frames corresponding to one of the SDH and PDH transmission system; and

a data stream generator configured to generate the data stream from the data packets corresponding to the asynchronous transfer mode.

12 (previously presented). The apparatus according to claim 20 wherein the direct data stream generator generates the data stream on the basis of position data with respect to a respective position of a first mini-cell in the transmission frame that are contained in each corresponding transmission frame.

13 (previously presented). The apparatus according to claim 12, wherein the position data are arranged at a beginning of a respective transmission frame.

14 (previously presented). The apparatus according to claim 20, wherein the demultiplexer is configured to perform demultiplexing of the data stream according to the information contained in a respective header of each of the plurality of mini-cells.

15 (currently amended). A method for receiving data in at least one of an SDH and a PDH transmission system, comprising ~~the following steps of:~~

receiving incoming transmission frames corresponding to a frame structure of one of the SDH and PDH transmission system;

directly generating a single data stream from the incoming transmission frames;

distributing data contained in a plurality of mini-cells contained within the data stream onto respective data channels; and

restoring data of individual data channels from the plurality of mini-cells wherein the data stream is generated on the basis of position data with respect to the position of a first mini-cell in the transmission frame that are contained in every transmission frame, wherein position data is arranged

at the beginning of a respective transmission frame, and the data stream is generated on the basis of position data with respect to the position of a first mini-cell in the transmission frame that are contained in every transmission frame.

16-17 (canceled)

18 (previously presented). The method according to claim 15, wherein the step of distributing data includes demultiplexing the data stream corresponding to the information contained in a respective header of the plurality of mini-cells.

19 (currently amended). An apparatus for sending data in at least one of an SDH and a PDH transmission system, comprising:

a data arrangement unit configured for receiving and arranging data incoming in a plurality of data channels into a plurality of mini-cells each having a flexible length;

a multiplexer configured to generate a single data stream from the plurality of mini-cells, wherein the received plurality of mini-cells are joined to one another within the single data stream; and

a direct transmission frame generator configured to generate individual transmission frames directly from the data stream and send the generated individual transmission frames via one of an SDH and a PDH transmission system, wherein the individual transmission frames contain a number of mini-cells and correspond to the frame structure of one of the SDH and PDH transmission system, wherein the direct transmission frame generator generates position data with respect to a position of a first mini-cell for each corresponding individual transmission frame and inserts the position data into each corresponding individual transmission frame and the direct transmission frame generator arranges the position data at the beginning of a respective individual transmission frame.

20 (previously presented). An apparatus for receiving data in at least one of an SDH and a PDH transmission system, comprising:

a direct data stream generator configured for receiving and directly generating a single data stream of a plurality of mini-cells from incoming transmission frames corresponding to the frame structure of one of the SDH and the PDH transmission system;

a de-multiplexer configured to distribute data contained in the plurality of mini-cells in the single data stream onto respective data channels; and

a data arrangement unit configured to restore data of individual data channels from the plurality of mini-cells.